

Daily Report

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Intro

As planned yesterday, today I did a survey on internal mechanisms of SVM. The Attic is still going on.

Research

- **Visual SVM** I read the chapter of kernel function and SVM on [1] and MMD[2]. There are mainly two ways of describing a SVM - from MMD, it is a straight forward way to describe the SVM as a large margin classifier with linear decision boundary, while in [2] it involves kernel functions for different decision boundaries. The main parameters that should adjust is a regularization parameter, a learning rate via solving the problem, and parameters for the kernel. In [1] it introduces that till now it is still not quite efficient to tune the parameters and lacks heuristic suggestions for how to optimize the parameters.
- **Attic** Today I discussed with Xinxin about details on the Visual Object - Data Binding panel. I made a sketch of this panel and the user working process on this panel. From this week on Xinxin will begin to implemented it.

Plan for Tomorrow

- For the survey, there are still some sections remained to read. Tomorrow I will finish them;
- finish the final report of the data mining course.

References

- [1] A. Rajaraman and J. D. Ullman, *Mining of Massive Datasets*. Cambridge University Press, Dec. 2011.
- [2] K. P. Murphy, *Machine Learning: A Probabilistic Perspective*. Adaptive Computation and Machine Learning series, The MIT Press, 1 ed., Aug. 2012.